

What is claimed is:

1. A passively temperature-compensated optical grating device comprising:
a support frame formed of a material exhibiting a relatively low coefficient of thermal expansion (CTE), said support frame including a floor, a first fixed sidewall and a lever arm as a second, movable sidewall;
an optical fiber grating attached between said first fixed sidewall and said lever arm; and
an expansion element formed of a material exhibiting a relatively high coefficient of thermal expansion (CTE), said expansion element attached to said support frame and disposed to be in physical contact with said lever arm, wherein changes in the dimensions of said high CTE expansion element as a function of temperature changes results in rotating said lever arm through a predetermined angle to adjust the strain applied to said optical fiber grating such that the strain nullifies wavelength changes associated with temperature changes.
2. The passively temperature-compensated optical grating device of claim 1 wherein the low CTE frame and fixed sidewall comprise Kovar.
3. The passively temperature-compensated optical grating device of claim 1 wherein the low CTE frame and fixed sidewall comprise Invar.
4. The passively temperature-compensated optical grating device of claim 1 wherein the high CTE expansion element comprises an aluminum alloy.
5. The passively temperature-compensated optical grating device of claim 1 wherein the high CTE expansion element comprises brass.
6. The passively temperature-compensated optical grating device of claim 1 wherein the high CTE expansion element comprises an expansion arm disposed between a second, fixed sidewall and the lever arm.
7. The passively temperature-compensated optical grating device of claim 1 wherein the high CTE expansion element comprises a disc of high CTE material disposed within the frame and in intimate physical contact with the lever.